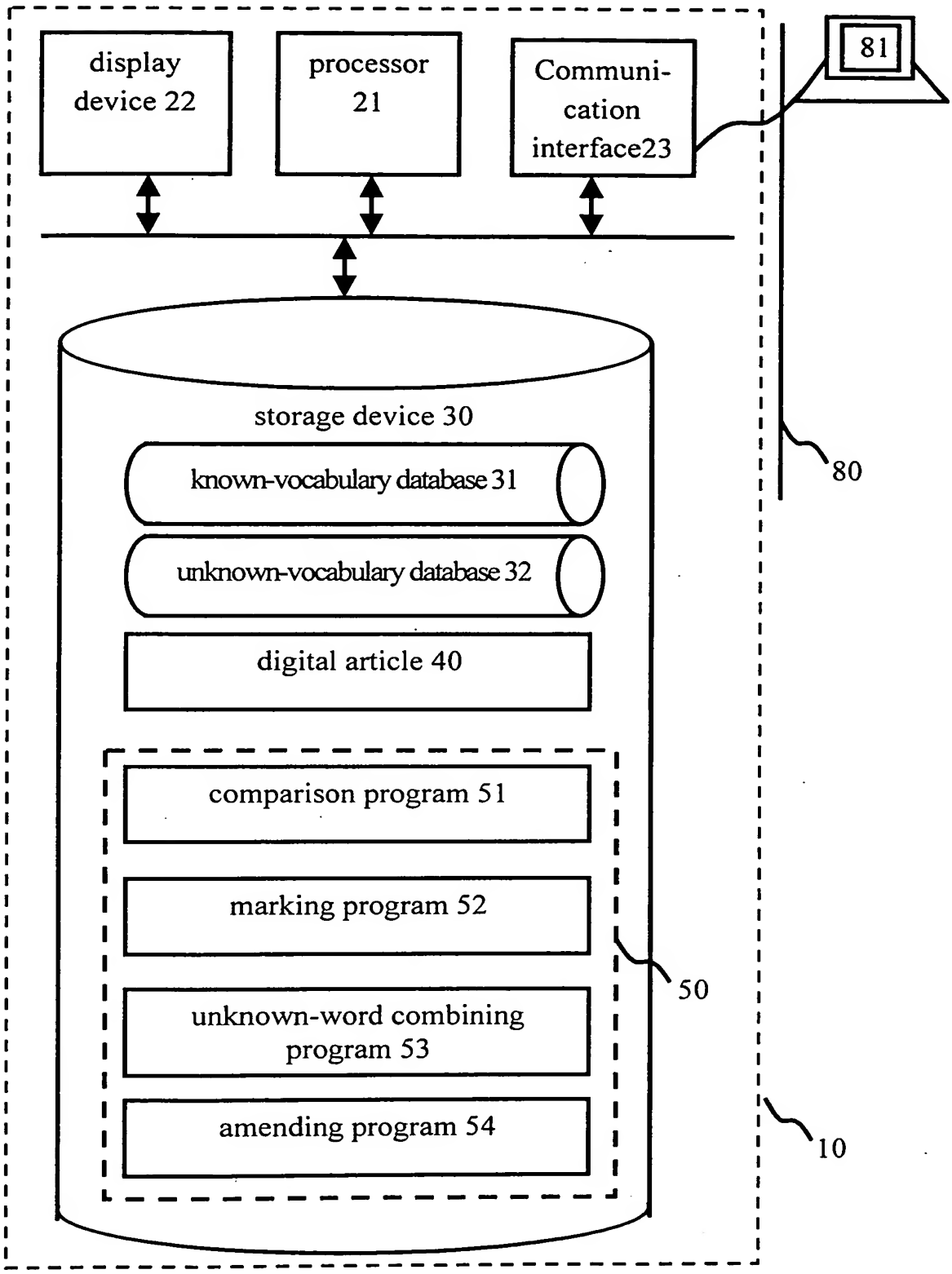

display device 22
processor 21
Communi-cation interface23
81
storage device 30
known-vocabulary database 31
unknown-vocabulary database 32
digital article 40
comparison program 51
marking program 52
unknown-word combining program 53
amending program 54
50
80
10

Fig. 1

known-vocabulary database 31

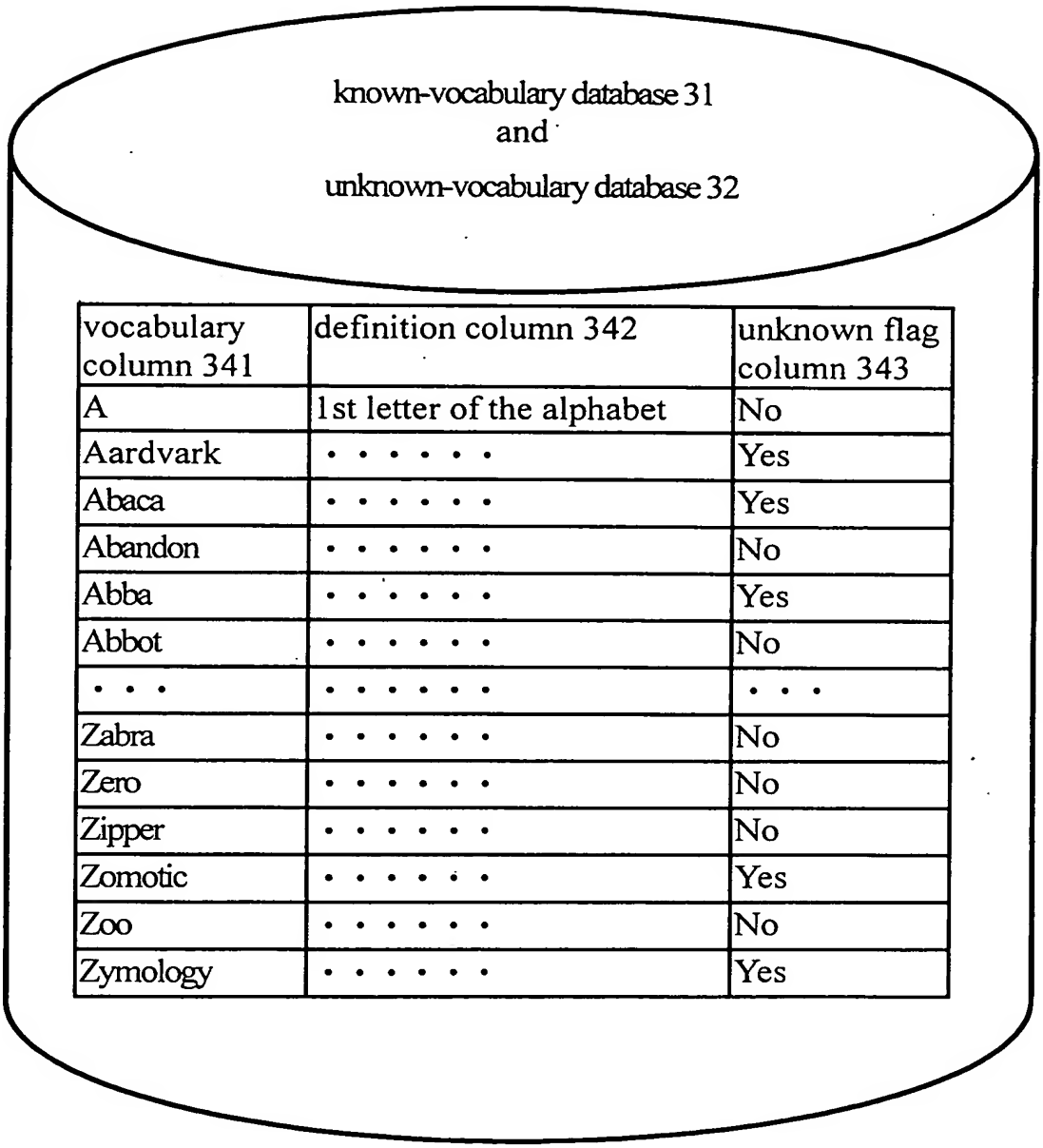
Vocabulary column 311	definition column 312
A	1st letter of the alphabet
Abandon	• • • • • •
Abbot	• • • • • •
• • •	• • • • • •
Zabra	• • • • • •
Zero	• • • • • •

Fig. 2

unknown-vocabulary database 32

vocabulary column 321	definition column 322
Aardvark	Ant-eating mammal
Abaca	• • • • • •
Abba	• • • • • •
• • •	• • • • • •
Zomotic	• • • • • •
Zymology	• • • • • •
Zymosis	• • • • • •

Fig. 3



vocabulary column 341	definition column 342	unknown flag column 343
A	1st letter of the alphabet	No
Aardvark	• • • • • •	Yes
Abaca	• • • • • •	Yes
Abandon	• • • • • •	No
Abba	• • • • • •	Yes
Abbot	• • • • • •	No
• • •	• • • • • •	• • •
Zabra	• • • • • •	No
Zero	• • • • • •	No
Zipper	• • • • • •	No
Zomotic	• • • • • •	Yes
Zoo	• • • • • •	No
Zymology	• • • • • •	Yes

Fig. 4

known-vocabulary database 31
and
unknown-vocabulary database 32

vocabulary column 341	definition column 342	unknown flag column 343 (User 1)	unknown flag column 343 (User 2)
A	1st letter of the alphabet	No	No
Aardvark	• • • • • •	Yes	Yes
Abaca	• • • • • •	Yes	No
Abandon	• • • • • •	No	No
Abba	• • • • • •	Yes	Yes
Abbot	• • • • • •	No	Yes
• • •	• • • • • •	• • •	• • •
Zabra	• • • • • •	No	Yes
Zero	• • • • • •	No	No
Zipper	• • • • • •	No	No
Zomotic	• • • • • •	Yes	Yes
Zoo	• • • • • •	No	No
Zymology	• • • • • •	Yes	No
Zymosis	• • • • • •	Yes	

Fig. 4A

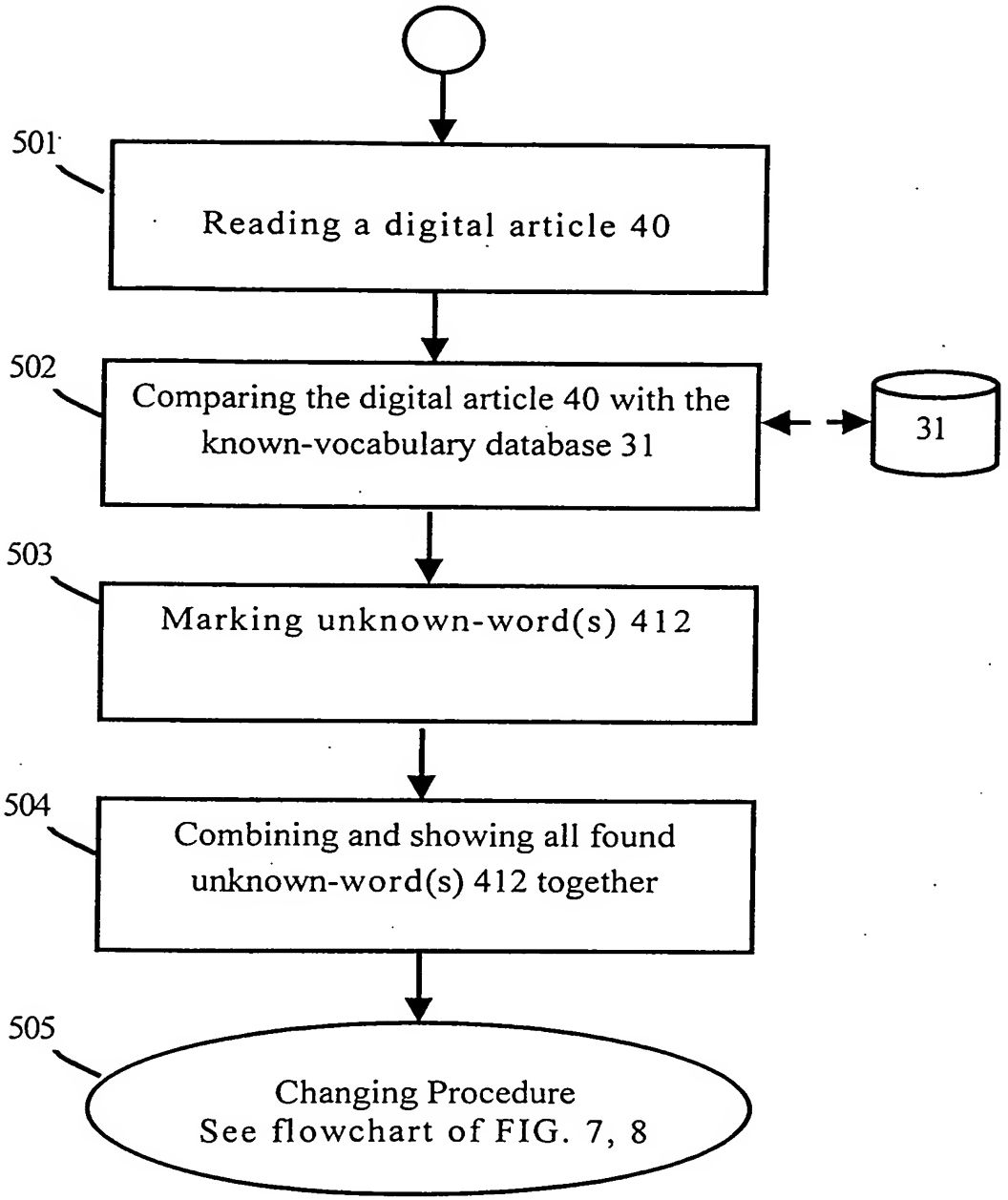

501
Reading a digital article 40
502
Comparing the digital article 40 with the known-vocabulary database 31
31
503
Marking unknown-word(s) 412
504
Combining and showing all found unknown-word(s) 412 together
505
Changing Procedure
See flowchart of FIG. 7, 8

Fig. 5

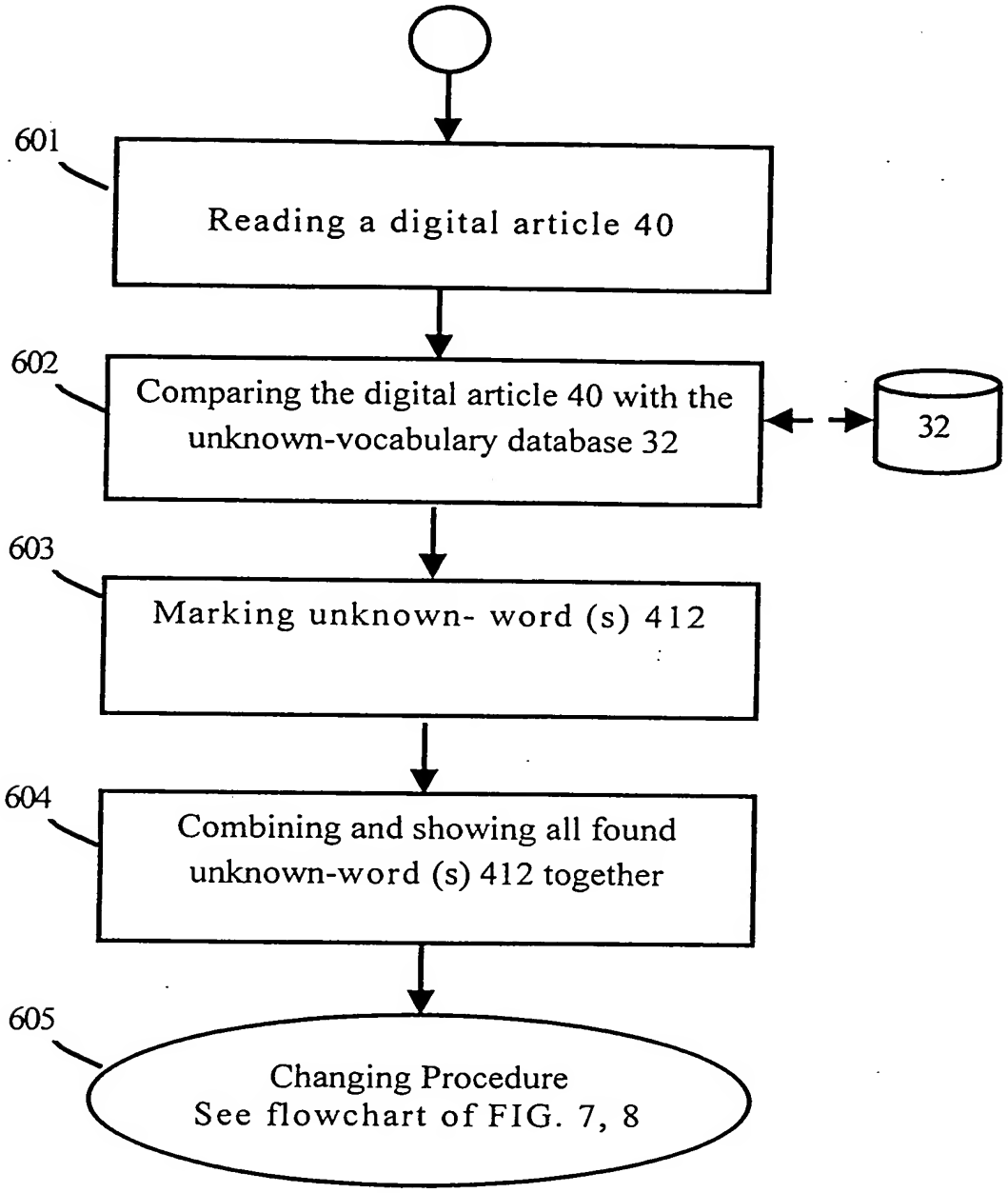

601
Reading a digital article 40
602
Comparing the digital article 40 with the unknown-vocabulary database 32
32
603
Marking unknown- word (s) 412
604
Combining and showing all found unknown-word (s) 412 together
605
Changing Procedure
See flowchart of FIG. 7, 8

Fig. 6

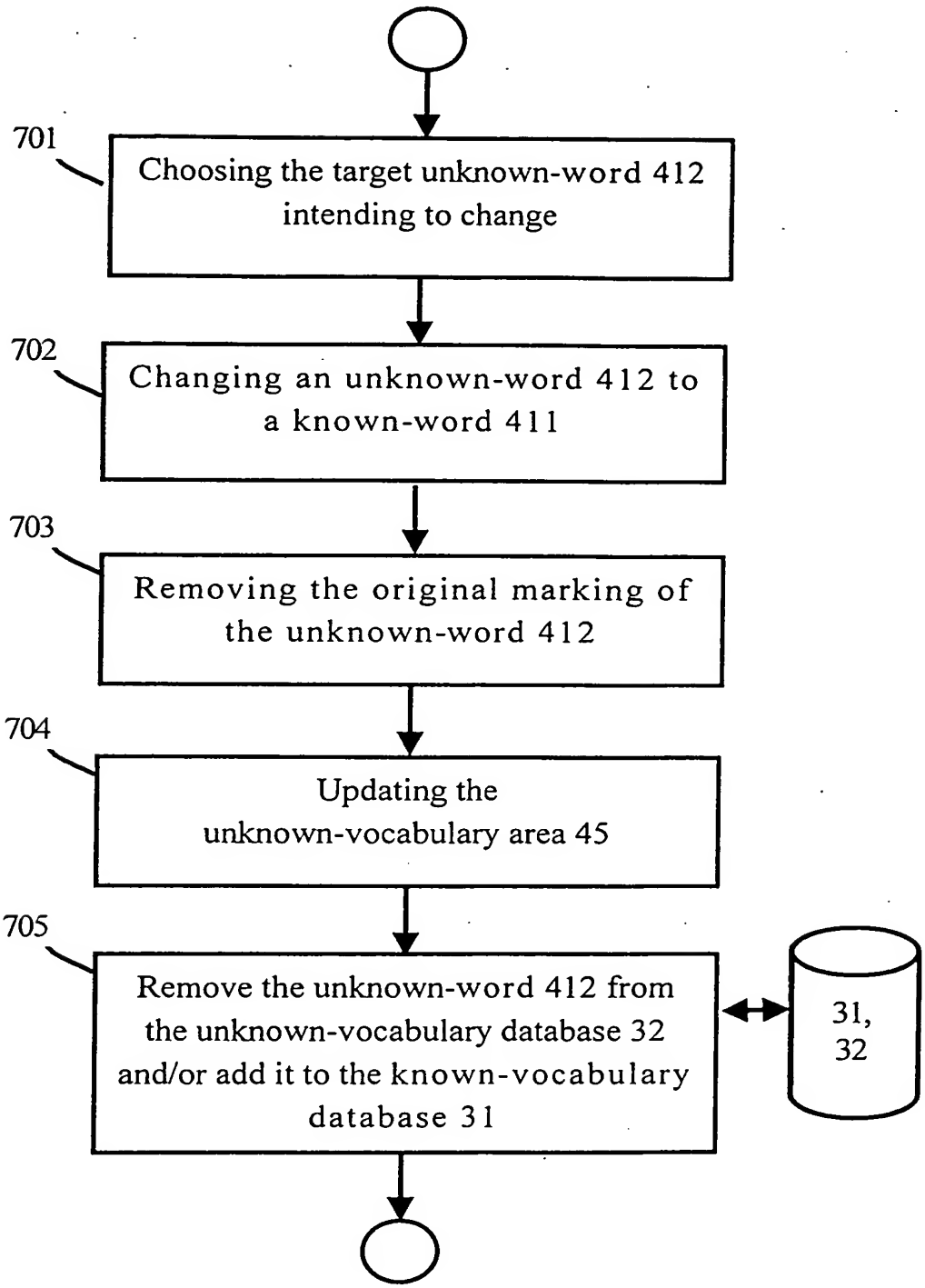

701
Choosing the target unknown-word 412 intending to change
702
Changing an unknown-word 412 to a known-word 411
703
Removing the original marking of the unknown-word 412
704
Updating the unknown-vocabulary area 45
705
Remove the unknown-word 412 from the unknown-vocabulary database 32 and/or add it to the known-vocabulary database 31
31, 32

Fig. 7

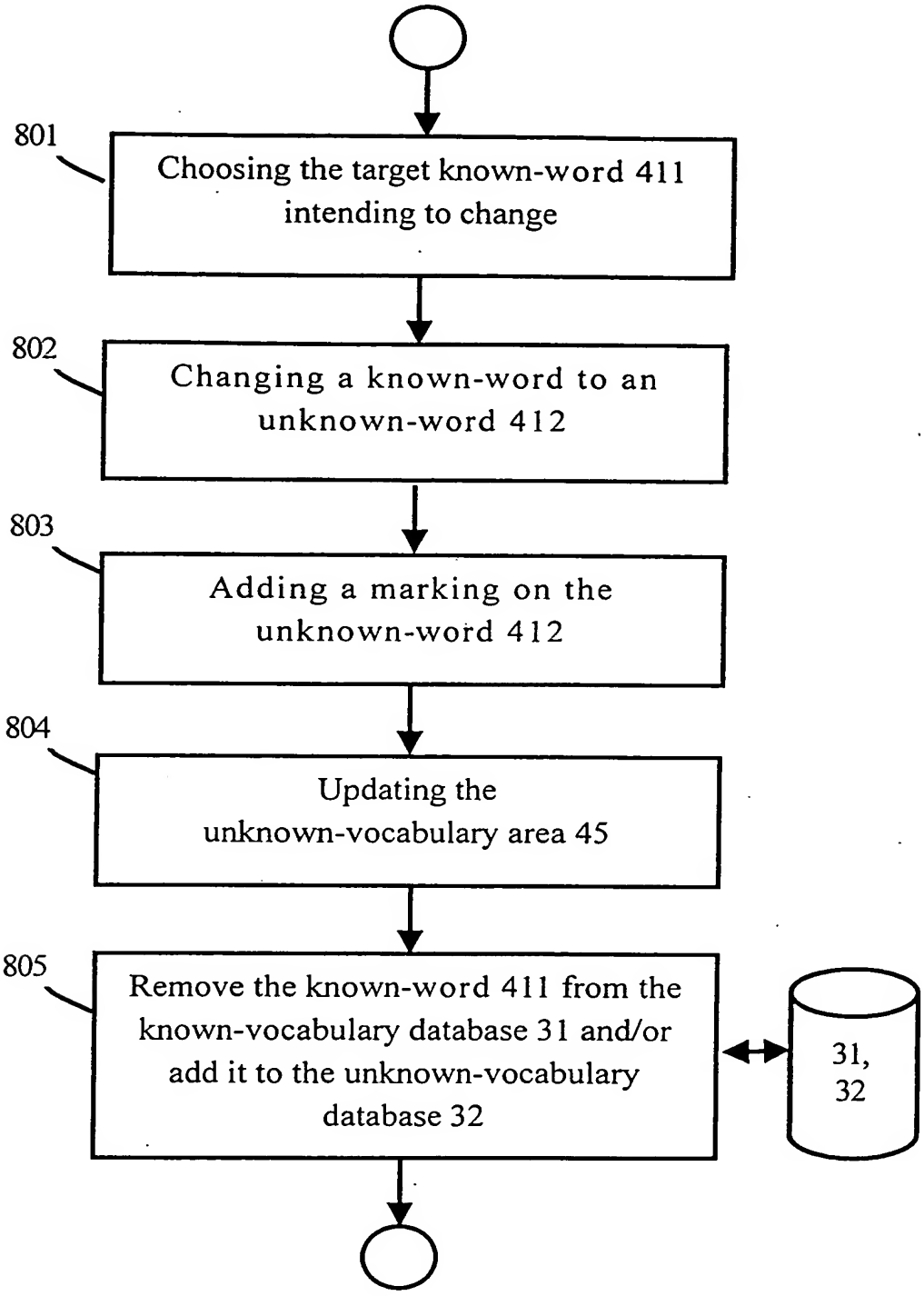

801
Choosing the target known-word 411 intending to change
802
Changing a known-word to an unknown-word 412
803
Adding a marking on the unknown-word 412
804
Updating the unknown-vocabulary area 45
805
Remove the known-word 411 from the known-vocabulary database 31 and/or add it to the unknown-vocabulary database 32
31, 32

Fig. 8

New Vocabulary

412

Neurons: nerve cell

Fundamental: basic, of central importance or necessity

Cognitive: act or process of knowing

Whiskers: long bristle or hair near an animal's mouth

Encoded: convert into code

45

40

How we distinguish a cat from a dog :

41 41 41

WASHINGTON (Reuters) -- It might not seem like being able to tell a cat from a dog is an important skill, but researchers said Thursday they had found monkeys have brain cells specifically assigned to the task and people may, too.

The team at the Massachusetts Institute of Technology found that individual neurons in the monkeys' brains became tuned to the concept of "cat" and others to the concept of "dog."

412 411 411

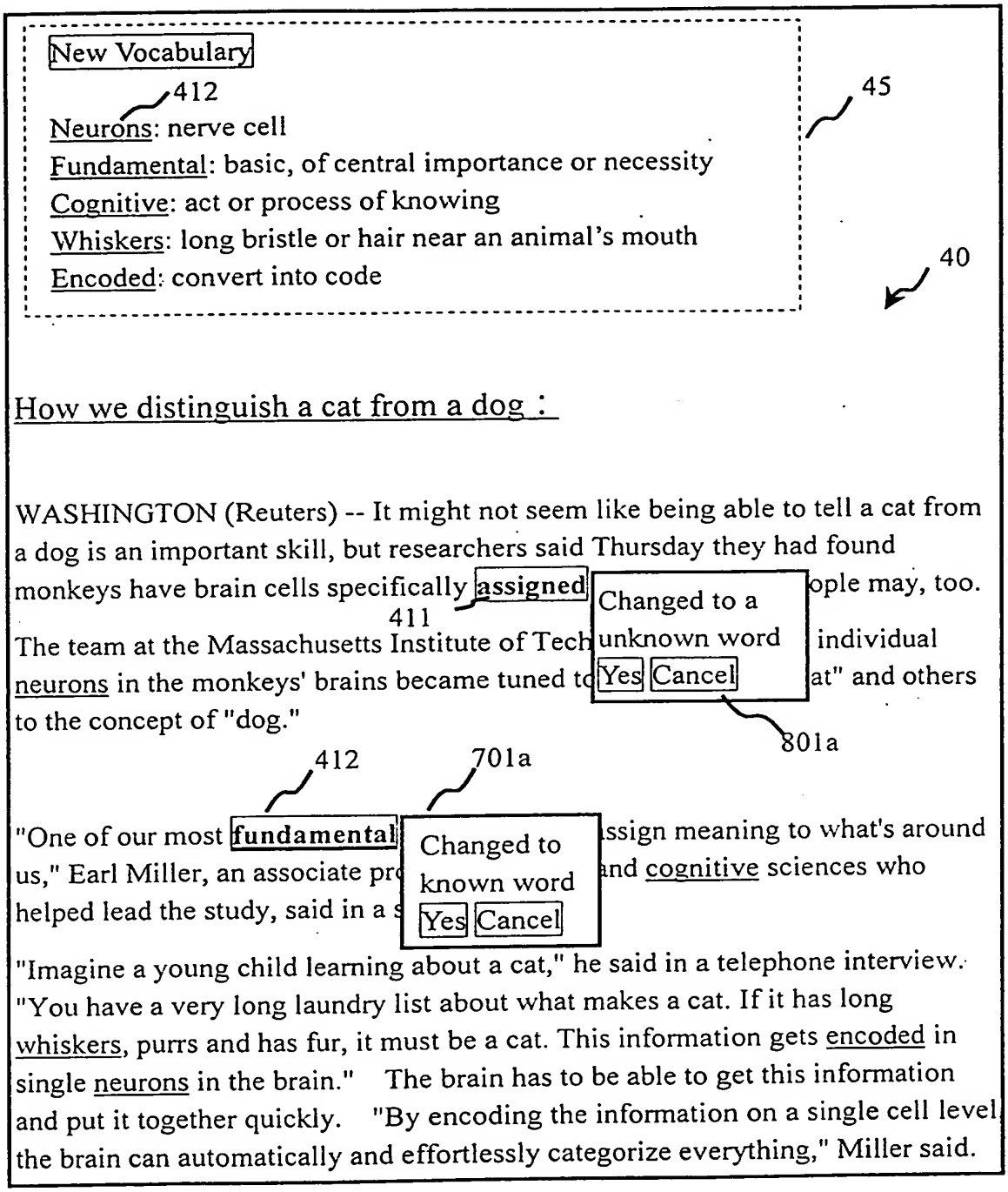
412

"One of our most fundamental behaviors is to assign meaning to what's around us," Earl Miller, an associate professor of brain and cognitive sciences who helped lead the study, said in a statement.

411 412

"Imagine a young child learning about a cat," he said in a telephone interview. "You have a very long laundry list about what makes a cat. If it has long whiskers, purrs and has fur, it must be a cat. This information gets encoded in single neurons in the brain." The brain has to be able to get this information and put it together quickly. "By encoding the information on a single cell level the brain can automatically and effortlessly categorize everything," Miller said.

Fig. 9


New Vocabulary
412
Neurons: nerve cell
Fundamental: basic, of central importance or necessity
Cognitive: act or process of knowing
Whiskers: long bristle or hair near an animal's mouth
Encoded: convert into code
45
40
How we distinguish a cat from a dog :
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411
Changed to a unknown word
Yes Cancel
801a
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412
701a
"One of our most fundamental
Changed to known word
Yes Cancel
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Fig. 10

New Vocabulary

412

Neurons: nerve cell

Assign: designate as a task; appoint to a duty; attribute

Cognitive: act or process of knowing

Whiskers: long bristle or hair near an animal's mouth

Encoded: convert into code

45

40

How we distinguish a cat from a dog :

WASHINGTON (Reuters) -- It might not seem like being able to tell a cat from a dog is an important skill, but researchers said Thursday they had found monkeys have brain cells specifically assigned to the task and people may, too.

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Fig. 11

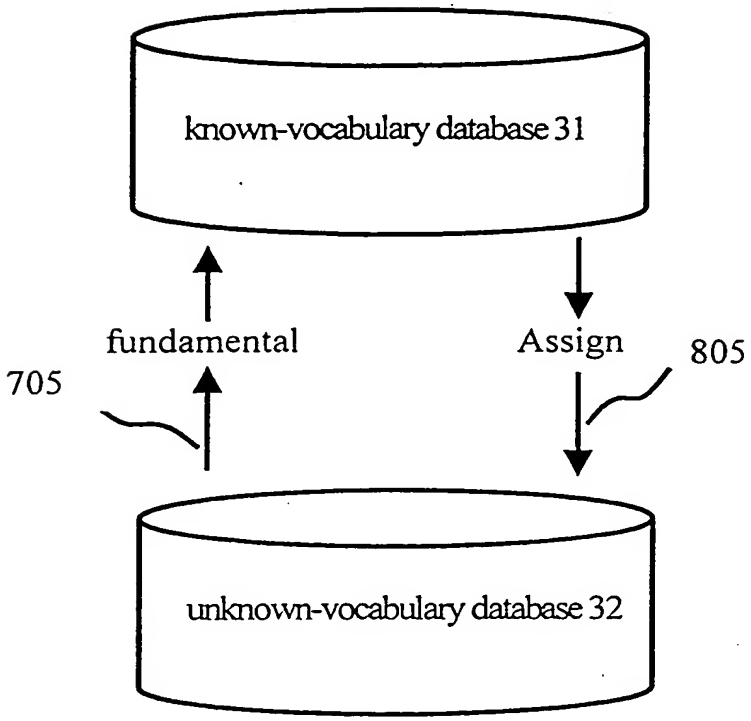
known-vocabulary database 31
fundamental
Assign
805
705
unknown-vocabulary database 32

Fig. 12